

TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371

EX99-004C-US

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

10/018,248

INTERNATIONAL APPLICATION NO.

PCT/US00/15880

INTERNATIONAL FILING DATE

06/08/2000

PRIORITY DATE CLAIMED

06/14/1999

TITLE OF INVENTION *Animal Models and Methods for Analysis of Lipid Metabolism and Screening of Pharmaceutical and Pesticidal Agents that Modulate Lipid Metabolism*

APPLICANT(S) FOR DO/EO/US

*Costa et al.*

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☐ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☐ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☐ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☒ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: *return receipt postcard; Notification of Defective Response (2p); Raw Sequence Listing Error Report (1p)*

10/018,248

PCT/US00/15880

EX99-004C-US

21. ☐ The following fees are submitted:**BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):**

Neither international preliminary examination fee (37 CFR 1.482)  
nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO  
and International Search Report not prepared by the EPO or JPO..... **\$1040.00**

International preliminary examination fee (37 CFR 1.482) not paid to  
USPTO but International Search Report prepared by the EPO or JPO ..... **\$890.00**

International preliminary examination fee (37 CFR 1.482) not paid to USPTO  
but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... **\$740.00**

International preliminary examination fee (37 CFR 1.482) paid to USPTO  
but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... **\$710.00**

International preliminary examination fee (37 CFR 1.482) paid to USPTO  
and all claims satisfied provisions of PCT Article 33(1)-(4) ..... **\$100.00**

**ENTER APPROPRIATE BASIC FEE AMOUNT =****CALCULATIONS PTO USE ONLY**

Surcharge of **\$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(e)).

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$
Total claims	- 20 =		x <b>\$18.00</b>	\$
Independent claims	- 3 =		x <b>\$84.00</b>	\$

MULTIPLE DEPENDENT CLAIM(S) (if applicable) + **\$280.00**

**TOTAL OF ABOVE CALCULATIONS =**

☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above  
are reduced by 1/2. +

**SUBTOTAL =**

Processing fee of **\$130.00** for furnishing the English translation later than ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(f)).

**TOTAL NATIONAL FEE =**

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be  
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **\$40.00** per property +

**TOTAL FEES ENCLOSED =**

Amount to be  
refunded: \$

charged: \$

- a. ☐ A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any  
overpayment to Deposit Account No. 501108. A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card  
information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR  
1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Jan P. Brunelle  
Exelixis, Inc.  
P.O. Box 511  
170 Harbor Way  
S. San Francisco, CA 94083-0511

SIGNATURE

NAME

REGISTRATION NUMBER



## UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT  
United States Patent and Trademark Office  
Washington, D.C. 20231  
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/018,248	Costa	EX 99-004C-US

INTERNATIONAL APPLICATION NO.
PCT/US00/15880

I.A. FILING DATE	PRIORITY DATE
06/08/2000	

Jan P Brunelle  
Exelixis Inc  
170 Harbor Way  
PO Box 511  
South San Francisco, CA 94083-0511

**CONFIRMATION NO. 6072**  
**371 FORMALITIES LETTER**



\*OC00000008255767\*

Date Mailed: 06/12/2002

### NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fee
- Biochemical Sequence Diskette
- Biochemical Sequence Listing
- Copy of IPE Report
- Copy of the International Application
- Copy of the International Search Report
- Oath or Declaration
- Request for Immediate Examination

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

**Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).**

The following items **MUST** be furnished within the period set forth below:

- The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821-1.825 for the following reason(s):
  - A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of 37 CFR 1.822 and/or 1.832, as indicated on the attached marked-up copy of the "Raw Sequence Listing."
  - APPLICANT MUST PROVIDE:
    - An initial or substitute paper copy or compact disc of the "Sequence Listing," as well as an amendment directing its entry into the specification.

**DOCKETED**  
**Exelixis, Inc.**

**JUN 19 2002**

- For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
- To Purchase PatentIn Software, call (703) 306-2600
- For PatentIn Software Program Help, call (703) 306-4119 or e-mail at [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or [patin3help@uspto.gov](mailto:patin3help@uspto.gov)

- A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of 37 CFR 1.822 and/or 1.832, as indicated on the attached marked-up copy of the "Raw Sequence Listing."

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

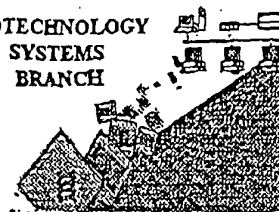
LAMONT M HUNTER

Telephone: (703) 305-3686

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/018,248	PCT/US00/15880	EX 99-004C-US

FORM PCT/DO/EO/916 (371 Formalities Notice)



1H

# RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/018,248  
Source: PCT 10  
Date Processed by STIC: 5/22/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/wcb/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

RAW SEQUENCE LISTING                      DATE: 05/22/2002  
PATENT APPLICATION: US/10/018,248        TIME: 15:48:57

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3 <110> APPLICANT: EXELIXIS, INC.
5 <120> TITLE OF INVENTION: ANIMAL MODELS AND METHODS FOR ANALYSIS OF LIPID
6     METABOLISM AND SCREENING OF PHARMACEUTICAL AND
7     PESTICIDAL AGENTS THAT MODULATE LIPID METABOLISM
9 <130> FILE REFERENCE: SREBP-INT
--> 11 <140> CURRENT APPLICATION NUMBER: US/10/018,248
12 <141> CURRENT FILING DATE: 2000-06-08
14 <150> PRIOR APPLICATION NUMBER: 09/332,522
15 <151> PRIOR FILING DATE: 1999-06-14
17 <150> PRIOR APPLICATION NUMBER: 60/189,700
18 <151> PRIOR FILING DATE: 2000-03-15
20 <160> NUMBER OF SEQ ID NOS: 8
22 <170> SOFTWARE: PatentIn Ver. 2.1

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92 <213> ORGANISM: Caenorhabditis elegans
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99 20 25 30
101 Pro Leu Asp Phe Asp Met Glu His Asn Trp Gln Glu Pro Gly Pro Ser
102 35 40 45
104 Gln Gln Pro Asp Pro Ser Ile Pro Gly Asn Gln His Ser Pro Pro Gln
105 50 55 60
107 Glu Tyr Tyr Asp Ile Asp Gly Gln Arg Asp Val Ser Thr Leu His Ser
108 65 70 75 80
110 Leu Leu Asn His Asn Asn Asp Asp Phe Phe Ser Met Arg Phe Ser Pro
111 85 90 95
113 Pro Asn Phe Asp Leu Gly Gly Gly Arg Gly Pro Ser Leu Ala Ala Thr
114 100 105 110
116 Gln Gln Leu Ser Gly Glu Gly Pro Ala Ser Met Leu Asn Pro Leu Gln
117 115 120 125
119 Thr Ser Pro Pro Ser Gly Gly Tyr Pro Pro Ala Asp Ala Tyr Arg Pro
120 130 135 140
122 Leu Ser Leu Ala Gln Gln Leu Ala Ala Pro Ala Met Thr Pro His Gln
123 145 150 155 160
125 Ala Ala Ser Leu Phe Val Asn Thr Asn Gly Ile Asp Gln Lys Asn Phe

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5/22/02

## RAW SEQUENCE LISTING

DATE: 05/22/2002

PATENT APPLICATION: US/10/018,248

TIME: 15:48:57

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132          195          200          205
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135          210          215          220
137 Gln Ser Pro Pro Pro His His His His His Pro Met Pro Lys Ile
138 225          230          235          240
140 His Glu Asn Pro Glu Gln Val Ala Ser Pro Ser Ile Glu Asp Ala Pro
141          245          250          255
143 Glu Thr Lys Pro Thr His Leu Val Glu Pro Gln Ser Pro Lys Ser Pro
144          260          265          270
146 Gln Asn Met Lys Glu Glu Leu Leu Arg Leu Leu Val Asn Met Ser Pro
147          275          280          285
149 Ser Glu Val Glu Arg Leu Lys Asn Lys Lys Ser Gly Ala Cys Ser Ala
150          290          295          300
152 Thr Asn Gly Pro Ser Arg Ser Lys Glu Lys Ala Ala Lys Ile Val Ile
153 305          310          315          320
155 Gln Glu Thr Ala Glu Gly Asp Glu Asp Glu Asp Asp Glu Asp Ser Asp
156          325          330          335
158 Ser Gly Glu Thr Met Ser Gln Gly Thr Thr Ile Ile Val Arg Arg Pro
159          340          345          350
161 Lys Thr Glu Arg Arg Thr Ala His Asn Leu Ile Glu Lys Lys Tyr Arg
162          355          360          365
164 Cys Ser Ile Asn Asp Arg Ile Gln Gln Leu Lys Val Leu Leu Cys Gly
165          370          375          380
167 Asp Glu Ala Lys Leu Ser Lys Ser Ala Thr Leu Arg Arg Ala Ile Glu
168 385          390          395          400
170 His Ile Glu Glu Val Glu His Glu Asn Gln Val Leu Lys His His Val
171          405          410          415
173 Glu Gln Met Arg Lys Thr Leu Gln Asn Asn Arg Leu Pro Tyr Pro Glu
174          420          425          430
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177          435          440          445
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182 Thr Pro Met Lys Asn Gly Thr Arg Asp Gly Ser Ser Lys Val Thr Leu
183 465          470          475          480
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186          485          490          495
188 Ala Gly Ser Ala Ile Phe Ser Lys Ala Ala Ala Glu Ala Pro Ile Ala
189          500          505          510
191 Ser Pro Phe Glu His Gly Arg Val Ile Asp Asp Pro Asp Gly Thr Ser
192          515          520          525
194 Thr Arg Thr Leu Phe Trp Glu Gly Ser Ile Ile Asn Met Ser Tyr Val
195          530          535          540
197 Trp Val Phe Asn Ile Leu Met Ile Ile Tyr Val Val Val Lys Leu Leu
198 545          550          555          560

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5/22/02

## RAW SEQUENCE LISTING

DATE: 05/22/2002

PATENT APPLICATION: US/10/018,248

TIME: 15:48:57

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Output Set: N:\CRF3\05222002\J018248.raw

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204                               580                               585                               590
206 Leu Lys Asp Ala Gln Arg Lys Phe Cys Glu Cys Leu Ala Thr Leu Asp
207                               595                               600                               605
209 Arg Ser Leu Pro Ser Pro Gly Val Asp Ser Val Phe Ser Val Gly Trp
210                               610                               615                               620
212 Glu Cys Val Arg His Leu Leu Asn Trp Leu Trp Ile Gly Arg Tyr Ile
213 625                               630                               635                               640
215 Ala Arg Arg Arg Arg Ser Thr Thr Lys Pro Val Ser Val Val Cys Arg
216                               645                               650                               655
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219                               660                               665                               670
221 Leu Met Gly Ile Thr Gly Asn Phe Glu Asp Thr Tyr Glu Pro Ser Ala
222                               675                               680                               685
224 Leu Thr Gly Leu Phe Met Ser Leu Cys Ala Val Asn Leu Ala Glu Ala
225                               690                               695                               700
227 Ala Gly Ala Ser Asn Asp Gly Leu Pro Arg Ala Val Met Ala Gln Ile
228 705                               710                               715                               720
230 Tyr Ile Ser Ala Ser Ile Gln Cys Arg Leu Ala Leu Pro Asn Leu Leu
231                               725                               730                               735
233 Ala Pro Phe Phe Ser Gly Tyr Phe Leu Arg Arg Ala Arg Arg His Val
234                               740                               745                               750
236 Arg Arg Ala Pro Glu His Ser Val Ser His Leu Leu Trp Ile Phe His
237                               755                               760                               765
239 Pro Ala Thr Arg Lys Phe Met Ser Asp Ala Lys Arg Leu Glu His Val
240                               770                               775                               780
242 Leu Ser Ser Lys Gln Lys Gln Leu Arg Phe Gly Ser Phe Val Glu Asp
243 785                               790                               795                               800
245 Glu Gln Leu Ser Pro Leu Ala Arg Ile Arg Thr Thr Leu Lys Val Tyr
246                               805                               810                               815
248 Leu Leu Ser Lys Leu Val Gln Glu Leu Val Gly Gly Asp Glu Ile Phe
249                               820                               825                               830
251 Thr Lys Asn Val Glu Arg Ile Leu Asn Asp Asn Asp Arg Leu Asp Asp
252                               835                               840                               845
254 Glu Val Asp Val Val Asp Val Ser Arg Leu Leu Val Thr Ile Ser Thr
255                               850                               855                               860
257 Gln Cys Ala Ala Ile Leu Thr Asn Glu Lys Asp Glu Ser Ala Lys Phe
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260 Gly Thr Trp Ile Ser Arg Asn Gly Asp Ala Cys Cys Thr Trp Trp Thr
261                               885                               890                               895
263 His Val Leu Thr Cys Gly Ile Tyr Trp Arg Ser Asn Lys Asn Glu Leu
264                               900                               905                               910
266 Ala Arg Gln His Tyr Ser Leu Ile Arg Asn Cys Pro Pro Lys Ile Leu
267                               915                               920                               925
269 Thr Asp Asn Leu Gly Leu Ala Val Gly His Ala Leu Cys Ala Arg Lys
270                               930                               935                               940
272 Ile Cys Ile Asp Asp Arg Asp Ser Pro Lys Val Ser Gln Tyr Val Cys

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5/22/02



see page 9

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002  
 TIME: 15:48:57

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285          1010          1015          1020
287 Ser Thr Phe Ser Thr Leu Tyr Gln Glu Ala Tyr Asn His Tyr Ala Ile
288          1025          1030          1035          1040
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294          1060          1065          1070
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297          1075          1080          1085
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5/22/02

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002  
TIME: 15:48:58

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799 tggcatccct aaatggattc cggatttcga aaaccaaggt cagtttcttc aagtatctgc 1560
800 acaagtttcg cctatcggtt ggcogtggac cggttggatg tcagttttta ttgctgtaaa 1620
801 aaaggaagga gaaaactttg aaggtgtttg taaaggaagt atcaccctag ttttggaaaag 1680
802 ctttaaacag accaccaacg aaactcatgt tacagaagtc gaotttcctt taacaataaa 1740
803 ggttactcca aaaccgcca gaaacaagag gattttatgg gatcagtacc acagcctaag 1800
804 gtatccaccg cgctatatcc cagcagatga tctcaaagtt aaactagatc ctctggactg 1860
805 gagggcagac catatacaca caaacttttg ggacatgtat acacatttac gaaatgttgg 1920
806 ctactacatt gatgttttgc gagaaccctt cacctgcttc aatgcctcgg attatggcgc 1980
807 gttattgatt gttgacctg agagagsggt tggcgacgag gaaataaacg ctttacagga 2040
808 aaacgtgtat aaaagaggct tgaatgtcgt cgtattcgga gactggtata acaccactgt 2100
809 gatgaaaaaa attaaattct ttgacgagaa caccgcagaa tgggtggacac cgcacactgg 2160
810 tggcgcaaat attccagcct tgaatgattt attgaagcca ttggaattg cttttggcga 2220
811 ttttgtcggg gagggacatt tcaaaactgg cgaccattca atgtactatg ctagtggagc 2280
812 cacaattggt aagtttccaa tgaatccagg agatattata gtgggcacaa aactgaatga 2340
813 ccaaggactt tcgattatta attctaaaac acccagcaag gtagcaaaac tagatgtacc 2400
814 tatttttggg atgttccaaa ccaaggcgaa cagtattcaa agcaacgagg aaatcgtggt 2460
815 caatgcggaa agcaatttgg cagaggctat acccagatg tactccacat ttaagaaccg 2520
816 ggttttgcta ctgcgaacga agcaacgaag tatcagtttt gcgaaaagca ataactatga 2580
817 aactaagaat gaaggacgta ttgocgtata tggggactcc aactgcctcg actccacgca 2640
818 tctggagaag gcttgcactt ggctgctaata aacgttttta gattttgcaa taaactcgca 2700
819 caaatcaagt ttattgcaga atctaaatcg tataactgaa tttcacaaat tagagagagc 2760
820 accattacct cttaggatat cgcaaagtat tataaaatct cgttcacagg acaataattg 2820
821 tgaacaattt aagtggcttg caccgacgaa gcaaaataac gccagggaaa ggaaatcttc 2880
822 tataatagac gtaaccatac tggaaaatga agaacacgag ataaatttaa tcaaaaattt 2940
823 attgggtgag gagatogcaa aactagggca aaacaatgat tatttaacag gaatgcaatc 3000
--> 824 cgcggatagt ctaatgactc caatatattc taattatnat aagcctaant gtatcatgta 3060
825 tttgtttatt ttaaagcgtc attcatttgt aataatactt cactttaaaa cgtaaaaaaa 3120
826 aaaaaaactga ggggcogtac cattcgctaa ggagcgatct 3160
829 <210> SEQ ID NO: 8
830 <211> LENGTH: 993
831 <212> TYPE: PRT
832 <213> ORGANISM: Drosophila melanogaster
834 <400> SEQUENCE: 8
835 Met Asn Val Phe Thr Phe Leu Phe Ile Ile Ser Ala Ile Cys Ser Leu
836 1 5 10 15
838 Asp Ala Phe Lys Thr Ala Val Val Pro Asn Glu Phe Ile Val His Phe
839 20 25 30
841 His Ser Lys Tyr Phe Ala Pro Val Arg Glu Ser Tyr Ile Ala Ala Lys
842 35 40 45
844 Leu Leu Gly Ser Asn Val Thr Asn Trp Arg Ile Val Pro Arg Leu Asn
845 50 55 60
847 Leu Ala Trp Gln Tyr Pro Ser Asp Phe Asp Ile Leu Arg Val Cys Asp
848 65 70 75 80
850 Gly Tyr Glu Ser Ser Ser Glu Phe Ile Ile Glu Arg Leu Gln Thr His
851 85 90 95
853 Pro Ser Val Lys Ala Val Val Pro Gln Arg Ser Val Arg Arg Ile Leu
854 100 105 110

```

see page 9

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002

TIME: 15:48:58

Input Set : A:\PCT.US00.15880.APP

Output Set: N:\CRF3\05222002\J018248.raw

```

856 Asn Tyr Asp Ala Tyr Ser Asn Leu Thr Tyr Ile His Arg His Pro Gln
857      115      120      125
859 Gly Val Leu Arg Asn Arg Asn Pro Asn Asn Asp Arg His Arg Gln Leu
860      130      135      140
862 Cys Ser Val Leu His Ala Asn Ile Leu Trp Lys Leu Gly Ile Thr Gly
863 145      150      155      160
865 Lys Gly Val Lys Val Ala Ile Phe Asp Thr Gly Leu Thr Lys Asn His
866      165      170      175
868 Pro His Phe Arg Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Lys
869      180      185      190
871 Ser Leu Asp Asp Arg Val Ser His Gly Thr Phe Val Ala Gly Val Ile
872      195      200      205
874 Ala Ser Ser Arg Glu Cys Leu Gly Phe Ala Pro Asp Ala Asp Leu Tyr
875      210      215      220
877 Ile Phe Lys Val Phe Thr Asn Ser Gln Val Ser Tyr Thr Ser Trp Phe
878 225      230      235      240
880 Leu Asp Ala Phe Asn Tyr Ala Ile Tyr Arg Lys Ile Asn Ile Leu Asn
881      245      250      255
883 Leu Ser Ile Gly Gly Pro Asp Phe Met Asp Ser Pro Phe Val Glu Lys
884      260      265      270
886 Val Leu Glu Leu Ser Ala Asn Asn Val Ile Met Ile Ser Ala Ala Gly
887      275      280      285
889 Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Gly Asp Gln Ser
890      290      295      300
892 Asp Val Val Gly Val Gly Gly Ile Gln Phe Asp Asp Lys Ile Ala Lys
893 305      310      315      320
895 Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Leu Gly Tyr Gly
896      325      330      335
898 Arg Met Gly Leu Asp Ile Val Thr Tyr Gly Ser Gln Val Glu Gly Ser
899      340      345      350
901 Asp Val Arg Lys Gly Cys Arg Arg Leu Ser Gly Thr Ser Val Ser Ser
902      355      360      365
904 Pro Val Val Ala Gly Ala Ala Ala Leu Leu Ile Ser Gly Ala Phe Gln
905      370      375      380
907 Lys Ile Asp Tyr Ile Asn Pro Ala Ser Leu Lys Gln Val Leu Ile Glu
908 385      390      395      400
910 Gly Ala Glu Lys Leu Pro His Tyr Asn Met Phe Glu Gln Gly Ala Gly
911      405      410      415
913 Lys Leu Asn Leu Leu Lys Ser Met Gln Leu Leu Leu Ser Tyr Lys Pro
914      420      425      430
916 Lys Ile Thr Leu Ile Pro Ala Tyr Leu Asp Phe Thr Gln Asn Tyr Met
917      435      440      445
919 Trp Pro Tyr Ser Ser Gln Pro Leu Tyr Tyr Gly Ser Ser Val Ala Ile
920      450      455      460
922 Ala Asn Val Thr Ile Leu Asn Gly Ile Ser Val Thr Ser His Ile Val
923 465      470      475      480
925 Gly Ile Pro Lys Trp Ile Pro Asp Phe Glu Asn Gln Gly Gln Phe Leu
926      485      490      495
928 Gln Val Ser Ala Gln Val Ser Pro Ile Val Trp Pro Trp Thr Gly Trp

```

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5/22/02

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002

TIME: 15:48:58

Input Set : A:\PCT.US00.15880.APP

Output Set: N:\CRF3\05222002\J018248.raw

```

929          500          505          510
931 Met Ser Val Phe Ile Ala Val Lys Lys Glu Gly Glu Asn Phe Glu Gly
932          515          520          525
934 Val Cys Lys Gly Ser Ile Thr Leu Val Leu Glu Ser Phe Lys Gln Thr
935          530          535          540
937 Thr Asn Glu Thr His Val Thr Glu Val Asp Phe Pro Leu Thr Ile Lys
938 545          550          555          560
940 Val Thr Pro Lys Pro Pro Arg Asn Lys Arg Ile Leu Trp Asp Gln Tyr
941          565          570          575
943 His Ser Leu Arg Tyr Pro Pro Arg Tyr Ile Pro Arg Asp Asp Leu Lys
944          580          585          590
946 Val Lys Leu Asp Pro Leu Asp Trp Arg Ala Asp His Ile His Thr Asn
947          595          600          605
949 Phe Arg Asp Met Tyr Thr His Leu Arg Asn Val Gly Tyr Tyr Ile Asp
950          610          615          620
952 Val Leu Arg Glu Pro Phe Thr Cys Phe Asn Ala Ser Asp Tyr Gly Ala
953 625          630          635          640
955 Leu Leu Ile Val Asp Pro Glu Arg Gly Phe Gly Asp Glu Glu Ile Asn
956          645          650          655
958 Ala Leu Gln Glu Asn Val Tyr Lys Arg Gly Leu Asn Val Val Phe
959          660          665          670
961 Gly Asp Trp Tyr Asn Thr Thr Val Met Lys Lys Ile Lys Phe Phe Asp
962          675          680          685
964 Glu Asn Thr Arg Gln Trp Trp Thr Pro Asp Thr Gly Gly Ala Asn Ile
965          690          695          700
967 Pro Ala Leu Asn Asp Leu Leu Lys Pro Phe Gly Ile Ala Phe Gly Asp
968 705          710          715          720
970 Phe Val Gly Glu Gly His Phe Lys Leu Gly Asp His Ser Met Tyr Tyr
971          725          730          735
973 Ala Ser Gly Ala Thr Ile Val Lys Phe Pro Met Asn Pro Gly Asp Ile
974          740          745          750
976 Ile Val Gly Thr Lys Leu Asn Asp Gln Gly Leu Ser Ile Ile Asn Ser
977          755          760          765
979 Lys Thr Pro Ser Lys Val Ala Lys Leu Asp Val Pro Ile Phe Gly Met
980          770          775          780
982 Phe Gln Thr Lys Ala Asn Ser Ile Gln Ser Asn Glu Glu Ile Val Val
983 785          790          795          800
985 Asn Ala Glu Ser Asn Leu Ala Glu Ala Ile Pro Thr Asp Tyr Ser Thr
986          805          810          815
988 Phe Lys Asn Arg Val Leu Leu Leu Arg Thr Lys Gln Arg Ser Ile Ser
989          820          825          830
991 Phe Ala Lys Ser Asn Asn His Glu Thr Lys Asn Glu Gly Arg Ile Ala
992          835          840          845
994 Val Tyr Gly Asp Ser Asn Cys Leu Asp Ser Thr His Leu Glu Lys Ala
995          850          855          860
997 Cys Tyr Trp Leu Leu Ile Thr Phe Leu Asp Phe Ala Ile Asn Ser His
998 865          870          875          880
1000 Lys Ser Ser Leu Leu Gln Asn Leu Asn Arg Ile Thr Glu Phe His Lys
1001          885          890          895

```

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5/22/02

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002

TIME: 15:48:58

Input Set : A:\PCT.US00.15880.APP

Output Set: N:\CRF3\05222002\J018248.raw

```

1003 Leu Glu Arg Ala Pro Leu Pro Leu Arg Ile Ser Gln Ser Ile Ile Lys
1004          900          905          910
1006 Ser Arg Ser Gln Asp Asn Asn Cys Glu Gln Phe Lys Trp Leu Ala Pro
1007          915          920          925
1009 Thr Lys Gln Asn Asn Ala Glu Glu Arg Lys Ser Ser Ile Ile Asp Val
1010          930          935          940
1012 Thr Ile Leu Glu Asn Glu Glu His Glu Ile Asn Leu Ile Lys Asn Leu
1013 945          950          955          960
1015 Leu Gly Glu Glu Ile Ala Lys Leu Gly Gln Asn Asn Asp Tyr Leu Thr
1016          965          970          975
1018 Gly Met Gln Ser Ala Asp Ser Leu Met Thr Pro Ile Tyr Ser Asn Tyr
1019          980          985          990
--> 1021 Xaa

```

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VARIABLE LOCATION SUMMARY

PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002

TIME: 15:48:59

Input Set : A:\PCT.US00.15880.APP

Output Set: N:\CRF3\05222002\J018248.raw

e of n's or Xaa's(NEW RULES):

e of n's and/or Xaa's have been detected in the Sequence Listing.

e of <220> to <223> is MANDATORY if n's or Xaa's are present.

<220> to <223> section, please explain location of n or Xaa, and which  
side n or Xaa represents.

q#:2; Xaa Pos. 1073

q#:7; N Pos. 3038,3049

q#:8; Xaa Pos. 993

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5/22/02

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002

TIME: 15:48:59

Input Set : A:\PCT.US00.15880.APP

Output Set: N:\CRF3\05222002\J018248.raw

11 M:270 C: Current Application Number differs, Replaced Current Application Number  
296 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:2  
824 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:7  
1021 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:8

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5/22/02